## Index to 1935 Transactions

	Page
Air Charge in Cupola Operation	
Air Distribution in Cupola	244
Alloy Iron:	409
For Permanent Molds	29
Impact Resistance	125
Specification for Cylinder Liners	473
Alloy Cast Steel Defined	582
Alloys:	
Aluminum, Recommended Practice for Sand Cast	1
Magnesium Founding	591
Nickel Silver Degasification and Deoxidation	
Nonferrous Slag Cloud Theory	508
Aluminum Alloy Castings	369
Aluminum Allov Castings, Specifications	0.23, 26
Aluminum Alloys, High Strength	388
Aluminum Alloys, Recommended Practice for Sand Cast	1
Aluminum:	
Bronze Castings	378-384
Copper Alloys, Recommended Practice for	11, 15
Effect on Nickel Silver Castings	25
Silicon Alloys, Recommended Practice for	19, 21
Annealing Furnace Refractories	58, 70
Applications:	
Heat Treated Cast Iron	31
Magnesium Alloy Castings	609
Martensitic Cast Iron	580
Apprentice System, Starting and Carrying on a Foundry	328
Apprentice Training at Falk Corp	474
Austennie Oust Itoms, Centificagui Custango Varieri	
В	
_	
Bending Tests for Welded Cast Steel	365, 367
Bibliography:	
Factors Affecting Gray Cast Iron	565
Heat Treatment of Cast Iron	38
Solidification of Steel Castings	295
Bottom Gated Steel Castings, Temperature Gradients in  Bracklesburg Furnace Linings	65
Brass Sand Castings, Analysis of Defects in	
Briquets, Addition of Silicon and Manganese to Cupola Mallea	ble
Iron Charges by Means of	432
Briquets Used to Add Silicon and Chromium to Cupola Charge	513
Bronze:	
Aluminum, Data on	378

	Page
Castings Defects	247
Brown & Sharpe Mfg. Co., Apprenticeship System.  Bung Brick for Malleable Furnaces.	328
	91
C	
Carbon, Effect on Cast Iron	133 351
Cast Iron:	
Affected by Phosphorus	580
Coke for Melting Cupola Malleable	267
Effect of Ladle Additions of Iron Oxide on Properties of Effect of Nickel and Manganese on Graphitization of	574
Effect of Superheat and Pouring Temperature on	43
Formation of Dendritic Pattern of Graphite in	544
Grate Bars, Nickel-Chromium	138
Heat Treated Alloyed	307
Impact Tests on Alloy Industrial Application of the Martensitic Transformation of	573
Investigation of Presence of Graphite in	156
Mixtures, High-Chromium Permanent Set of Piston Ring	472
Physical Properties of Electric Furnace	456
Relation Between Transverse Strength and Tensile Strength of Specifications for Cylinder Liners, Alloy	472
Superheated Temperature Obtained in Melting	308
Titanium Effects on Properties of	318
Wear Resistance of White	911
Definition of	582
Dilation Curves for	351
Fillets, Gates and Hot Spots	$\frac{96}{359}$
Casting Defects Caused by Expansion and Contraction of Molding Sand	
Centrifugal:	
Cast Iron Parts, Mold Design for	462
Casting Machine, De Lavaud	470
Process, Slush Pump Piston Cores Produced by	476
Process with Special Reference to Production of Engine Cylinder Parts	
Ceralumin Series of Aluminum Alloys	390
Charpy Impact Tests on Cast Iron.  Chemical Classification of Steels for Castings.	140
Chills for Steel Castings	

	Page
Chromium and Silicon, Use of Briquets in Cupola for Adding	131 318 116 .237 431 85
Committee:	947
Analysis of Defects in Brass and Bronze Castings	614
Composition:	
Core Pins in Permanent Molds.  Heat Treated Cast Iron.  Cylinder Liner Material.  Conditioning Foundry Sand.  Contracts, Apprentice.  Contraction of Molding Sand at Elevated Temperatures.  Contraction of Steel Castings.  Control Program, Outlines Health.  Control of Sand Properties.  Copper-Titanium-Chromium, Effect on Cast Iron.  Copper on Wear Resistance of Cast Iron, Effect of.  Copper-Zinc Sand Cast Alloys.  Core Pins for Permanent Mold, Analysis.  Core Practice for Aluminum Alloys.  Cost of Sand Handling Unit for Small Foundry.  Costs, Report of Committee on Foundry.  Crucibles for Melting Aluminum Alloys.	34 473 417 344 107 274 177 122 133 519 373 465 4 421 614
Cupola:	
Adding Ferroalloys in Cast Irons, Transverse Load Deflection Curves of Charges, Weights of Materials in Combustion Theory Conditions for Ideal Melting Gas Anaylsis Irons, Impact Resistance Impact, Chemical Analysis Malleable Iron, Tensile Strengths of Melting Ratio Mixtures When Adding Alloys by Briquet Method Operation Operation, Relation of Air Charge to Operation, Theory of Combustion in Operation, Theory of Combustion in Operation in Locomotive Castings Foundry Operation in Producing Malleable Cast Iron Slags Zones Cupolas, Air Input in Cylinder Liners, Centrifugally Cast	129 239 4, 405 307 310 133 127 441 232 315 228 303 405 153 408 305 241
D	
De Lavaud Centrifugal Casting Machine, Operation	443
Defects:	
Brass and Bronze Sand Castings	247

	Page
Caused by Molding Sand Their Causes and Prevention in Aluminum Alloys.  Deoxidizing and Fluxing Aluminum Alloys.  Deoxidizers for Cast Iron.  Degasification of Nickel Silver Alloys.  Dendritic Pattern in Gray Iron, Formation.  Design as Affecting Cracking of Steel Castings.  Design of Castings, Studies, by X-Ray.  Designer, Cooperation of the Foundryman and Weld.  Dilatometer Used in Testing Sands at High Temperatures.  Dilation Curve of Steel Used for Making Castings.	121 9 6 267 251 552 99 485 506 108
Collection in Foundries. Collectors, Types of	5, 201 173 213 168
_	
Electric Furnace Irons, Physical Properties of.  Electrical Precipitation of Dust Elektron Casting Alloys, Magnesium.  Employer Responsibility, Health Hazards and	202 396 , 166 41 174
F	
Fabrication of Cast and Rolled Steel.  Falk Corp., Foundry Apprenticeship at.  Fan Selection for Removing Dust.  Fatigue Tests of Malleable Cast Iron.  Feed Heads on Temperature Gradients, Effect of.  Fees for Apprentices.  Ferro Alloys in the Cupola, Adding.  Fillets, Gates and Hot Spots in Steel Castings.  Fineness, Sand, Effect on Contraction and Expansion.  Finishing Aluminum Alloy Castings.  Finishing Magnesium Alloy Castings.  Fiuxing Aluminum Alloys  Form for Calculating Cupola Efficiency.  Founding Magnesium Alloys.	321 215 43 78 337 313 96 115 7 604 6 311
Foundry:	
Apprenticeship	614 191
Dust Collection Sand Handling for Small Shops. Steels, Classification of Furnaces, Bung Brick for Malleable. Furnaces, Insulation of Open-Hearth.	581 51
Sand Handling for Small Shops. Steels, Classification of Furnaces, Bung Brick for Malleable.	581 51

Pag	e
Gas Content of Superheated Cast Iron. 54 Gas Analyses, Cupola 31 Gases and Slags in Cupola Operation 40 Graphite in Cast Iron, Formation of Dendritic Pattern of 55 Gray Iron Castings, Production Centrifugally 44 Gray Iron Castings, Structure and Properties 53	0423
Н	
Hardness of Steel Castings at Welds. 49 Hazards from Dust. 21 Heading for Aluminum Alloys. Health Hazards and Employer Responsibility .161, 16	3 2
Heat Treatment:	
Aluminum Alloys	5 6 3 8
Hoods for Dust Collectors 19	2
Hot Tears in Steel Castings 48	6
1	
Impact Resistance of Cast Iron Pipe.       45         Impact Tests on Alloy Cast Iron.       13         Inspection of Steel Castings.       48         Instruction, Apprentice       33         Insulating Fire Brick in Foundry Practice.       5	0 5 8
L	
Ladle Lining Technique	
M	
Machinability of Magnesium Alloys.60Machinability of Cupola Malleable Cast Iron.43Magnesium Alloy Castings.396-398, 40Magnesium Alloys, Founding.59Malleable Castings, Production of Cupola.42Malleable Furnace Refractories.5	6 1 1 7
Malleable Iron:  Coke for Melting Cupola. 43 Endurance Limit of Black-Heart. 4 Tensile Strengths of Cupola. 44 Manganese and Sulphur, Effect on Wear Resistance of Cast Iron. 52 Manganese Bronze Castings 371-37 Martensitic Cast Iron. 57 Melting Practice for Aluminum Alloys. 59 Melting Practice for Magnesium Alloys. 59 Melting Ratios in Cupolas. 23 Modulus of Elasticity of Heat Treated Cast Iron. 4 Moisture Content, Sand, Effect on Expansion and Contraction. 11	1 1 5 8 3 4 2 0

	Page
Mold:	
Design for Centrifugally Cast Parts.  Hardness Effects Expansion and Contraction of Sand.  Temperature on Steel Castings, Effect of.  Molding Magnesium Alloys.	120 97
Molding Sand (See Also Sands):	003
Elevated Temperatures, Expansion and Contraction of.  Molding Sands for Aluminum Alloys.  Molds, Water Cooled, Castings Produced in.  Molten Cast Iron, Investigation of Presence of Graphite in.  Molybdenum-Chromium Cylinder Liners.  Molybdenum, Effect on Cast Iron.  Molybdenum-Nickel, Effect on Impact Resistance of Cast Iron.	2 443 557 473 133
N	
Nickel:	
Base Metal Casting Alloys.  Chromium Cast Iron for Grate Bars.  Chromium Effect on Cast Iron.  Graphitization of Cast Iron, Effect of.  Molybdenum, Effect on Cast Iron Impact Resistance.  Silver Alloys, Deoxidation and Degasification.	159 133 574 130
Non-ferrous Alloys:	
Aluminum Ceralumin Copper-Zine Deoxidation and Degasification Elektron High Strength Modifying Phenomenon and Its Probable Relation to Properties of Nickel Base Y-Alloy Zine Casting Non-ferrous Castings Defects Non-ferrous Furnace Refractories, Insulating	390 373 251 396 369 262 384 389 387
O	
Open-Hearth Furnaces, Insulation of	62
P	
Painting Magnesium Alloy Castings	607
Pay for Apprentices.  Permanent Molds, Alloy Irons for  Permanent Set of Cast Iron Piston Rings.  Phosphorus, Effect on Cast Iron.  Phosphorus on Wear of Cast Iron, Effect of.  Pig Iron for Cupola Malleable Iron.  Pipe, Casting of Chill-Free Cast Iron.  Piston Rings, Permanent Set of Cast Iron.	332 463 472 132 524 430 446
Pouring: Practice for Aluminum Alloys Rates on Temperature Gradients, Effects of	4 78

Pag	le
Temperature, Effect on Gray Cast Iron	35
R	
Recommended Practice:	
Aluminum Copper Alloys	1 1 7
Refractories:	
Insulating 5	18 2
S	
Safety of Operator in X-Ray Examination of Steel Castings 48	3
Sand (See Also Molding Sand):  Fineness Effects Expansion and Contraction	15 20 7 2 76 14 18 18 18 18 18 18 18 18 18 18 18 18 18
Steel:	
Bending Strength for Welded Cast	16 10
Steel Castings:	
Bibliography on Rate of Skin Formation in	33

Pe	age
Influence of Temperature Gradients in Production of	95 481 581 428
T	
Tap-out Blocks and Wall Brick for Malleable Furnaces	53
Temperatures:  Effect on Nickel Silver Castings, Improper.  For Pouring Cupola Malleable Iron.  Obtained in Melting Cast Iron.  Tensile Strenth of Cupola Malleable Cast Iron.	434 308
Testing:	
-Ventilating Equipment Wear Resistance of Cast Iron. Welded Cast and Rolled Steel. Thresholds of Dust Hazards. Titanium, Effect on Cast Iron.	511 352 173
W	
Wear Resistant Cast Iron	506
Welding: Cast and Rolled Steel Magnesium Alloys Steel Castings Tests of Cast Steel	605 481 -363 511
X	
X-Ray and Welding of Steel Castings X-Ray Used in Examining Foundry Workers	481 170
У	
Y-Alloy Castings	389
Z	
Zinc Casting Alloys	387
Zones in the Cupola	305

## Authors' Index

to

## 1935 Transactions

Page
AUFDERHAAR, H. C. and SMITH, E. K Adding Ferroalloys in the
Cupola 313
ASH, E. J. and Underwood, C. M X-Ray and Welding, The Foundry-
man's Aid to Quality Castings 481
BATTY, GEORGE-The Influence of Temperature Gradients in the Pro-
duction of Steel Castings 75
BEACH, E. WMechanical Sand Handling for Low-Tonnage Found-
ries
Briggs, C. W. and Gezelius, R. A.—Studies on Solidification and Con-
traction in Steel Castings—III—The Rate of Skin Formation 274
Brooks, M. E. and Gann, J. A.—Founding of Magnesium Alloys 591
CAMPBELL, H. L. and GRENNAN, JOHN—Control of Cupola Operation. 228
CRAWFORD, H. V.—Relation of Air Charge to Cupola Operation 303
CUMMINGS, D. L.—Industrial Health Hazards and Employer Respon-
sibility 166
DAYTON, R. W. and LORIG, C. H.—The "Modifying" Phenomenon and
Its Probable Relation to Properties of Non-Ferrous Alloys 262
DELBART, G. R.—A Study of an Industrial Application of the Mar-
tensitic Transformation of Austenitic Iron 573
DIGIULIO, A. and WHITE, A. E.—Factors Affecting the Structure and
Properties of Gray Cast Iron
DIERKER, A. H.—Slags and Gases in Cupola Operation 404
DIETERT, H. W. and VALTIER, F.—The Expansion and Contraction of
Molding Sand at Elevated Temperatures 107
ELLIS, O. W., GORDON, J. R. and FARNHAM, G. S.—The Wear Resistance
of White Cast Iron 511
FALK, A. E.—Slush Pump Piston Cores Produced by Centrifugal Cast-
ing Process 460
FARNHAM, G. S., ELLIS, O. W. and GORDON, J. RThe Wear Re-
sistance of White Cast Iron 511
GANN, J. A. and Brooks, M. E Founding of Magnesium Alloys 591
GEZELIUS, R. A. and BRIGGS, C. W.—Studies on Solidification and Con-
traction of Steel Castings-III-The Rate of Skin Formation 274
GORDON, J. R., ELLIS, O. W. and FARNHAM, G. SThe Wear Re-
sistance of White Cast Iron
Goss, J. E.—Some Suggestions for Starting and Carrying on a Foun-
dry Apprenticeship System
GRENNAN, JOHN and CAMPBELL, H. L.—The Control of Cupola Opera-
tion
Hamilton, J. W. and Mahin, E. G.—Endurance Limit of Black-
heart Malleable Iron
HEWITT, L. C.—Malleable Furnace Refractories
HURST, J. E.—The Centrifugal Casting Process with Special Refer-
ence to the Production of Engine Cylinder Liners 467
The state of the s

P	age
	-0-
	321
	200
	582
	262
Making	
f Black-	410
mplovov	41
	161
	27
Modern	369
	55
erties of	
	125
Locomo-	151
	313
	247
	443
ne Foun-	
	481
	107
ture and	
	Making  f Black-  Comployer  Modern  Locomo-  Castings  in the  efects in  tings in  terms in

November-December, 1935.....

January-February, 1936.....

March-April, 1936.....

May-June, 1936....

1-160

161-320

320-480

480-624

